UNITED STATES SPECIAL OPERATIONS COMMAND

Proposal Submission

The United States Operations Command's (USSOCOM) missions include developing and acquiring unique special operations forces (SOF) equipment, material, supplies and services. Desired SOF operational characteristics for systems, equipments and supplies include: lightweight and micro-sized; reduced signature and low observable; built-in survivability; modular, rugged, reliable, maintainable and simplistic; operable in extremes temperature environments; water depth and atmosphere pressure proof; transportable by aircraft, ship and submarine, and deplorable by airdrop; LLPI/LPD jam resistant C3I, electronic warfare capable of disruption and deception; near real-time surveillance, intelligence and mission planning; highly lethal and destructive; low energy/power requirements; and compatible with conventional force systems. USSOCOM is seeking small businesses with a strong research and development capability and understanding of the necessity for consideration of these SOF operational characteristics for systems. The topics on the following pages represent a portion of the problems encountered by SOF in fulfilling its mission.

USSOCOM invites the small business community to send proposals (original plus 3 copies) directly to the following address:

United States Special Operations Command
Attn: SOAC-KB/SBIR Program, Topic No. SOCOM 98-00__
2408 Florida Keys Avenue, 2nd Floor
MacDill Air Force Base, Florida 33621-5316

The proposals will be distributed to the appropriate technical office(s) for evaluation. Inquires of a general nature or questions concerning the administration of the SBIR program should be addressed to :

United States Special Operations Command
Attn: SOSB/ Ms. Karen L. Pera
7701 Tampa Point Blvd.
MacDill Air Force Base, Florida 33621-5316
Tel (813) 828-9491
Fax (813) 828-9488
E Mail perakl@hqsocom.af.mil

General/routine correspondence being dispatched by overnight delivery should use the following address:

United States Special Operations Command
ATTN: SOSB/Karen L. Pera
Building 143
2600 Pink Flamingo Avenue
MacDill AFB, Florida 33621-5316

USSOCOM has identified 4 technical topics for the FY 98.1 solicitation to be released to which small businesses may respond. The topics listed are the only topics for which proposals will be accepted. The topics were initiated by USSOCOM technical offices that manage the research and

development in these areas. Scientific and technical information assistance may be requested by using the DTIC SBIR Interactive Technical Information System (SITIS).

Firms are encouraged to submit a proposal for an optional task which would be performed during the period between Phase I completion and Phase II contract award. The optional task provides the opportunity to reduce the gap between Phase I and II funding. The maximum amount of SBIR funding used for an USSOCOM Phase I award is $100,000. Proposals that include the option task shall not exceed $70,000 for Phase I and $30,000 for Phase I Option. Options must be submitted with the basic Phase I proposal and will not be included in the basic Phase I proposal page limitation. The basic Phase I proposal shall be evaluated exclusive of the option task and must be proposed and priced separately. The option portion of the proposal shall not exceed 10 pages, not exceed $30,000, not exceed three months in duration, and will be evaluated using the same evaluation criteria as Phase I proposals. The transition option work shall be included as an option in the Phase I contract and evaluated for USSOCOM unilateral exercise at any time after Phase I award through the conclusion of the basic Phase I contract. Exercise of any option shall be at the sole discretion of USSOCOM and shall not obligate USSOCOM to make a Phase II award.

Evaluation Criteria - Phase I & II

1) The soundness, technical merit, and innovation of the proposed approach and its incremental progress toward topic or subtopic solution.

2) The qualifications of the proposed principal/key investigators supporting staff, and consultants. Qualifications include not only the ability to perform the research and development but also the ability to commercialize the results.

3) The potential for commercial (Government or private sector) application and the benefits expected to accrue from this commercialization.

Selection of proposals for funding is based upon technical merit and the evaluation criteria included in this solicitation. As funding is limited, USSOCOM reserves the right to select and fund only those proposals considered to be superior in overall technical quality and most critical. As a result , USSOCOM may fund more than one proposal in a specific topic area if the technical quality of the proposals are deemed superior, or it may fund no proposals in a topic area.

USSOCOM also encourages contractors to participate in the SBIR Fast Track program as described in the DOD 98.1 Solicitation, para 4.5. Proposing Options in the initial proposal will not prevent a contractor from participating in

the Fast Track Program, however, the total USSOCOM funds for a Phase I, options, and the Fast Track funding will not exceed $140,000. It is anticipated the vast majority of Fast Track proposals will receive interim funding between Phases I and II, and that the percentage of Phase I Fast Track projects that are selected for Phase II awards should be significantly higher that the overall percentage of Phase I projects that are selected for Phase II.

USSOCOM offers information on the Internet about its SBIR program on the SOAC Home Page at http://www.soac.hqsocom.mil

USSOCOM
FY 1998 SBIR TOPIC INDEX

Biomedical

SOCOM 98-001 Non-Invasive Blood Oxygen Sensor

C3

SOCOM 98-002 Desktop Teleconferencing

Sensors

SOCOM 98-003 Portable Vehicle Disturbance Detector

Multiple

SOCOM 98-004 Surprises and Opportunities.

SUBJECT/WORD INDEX TO THE SOCOM SBIR SOLICITATION

| SUBJECT/WORD | TOPIC NR |
|---|---|
| Ambient False Alarms | 003 |
| Anti-Tampering-Countermeasure | 003 |
| Blood | 001 |
| Breath-Hold | 001 |
| Brass-Board Prototypes | 004 |
| Creative Minds | 004 |
| Desktop | 002 |
| Distance Learning | 002 |
| Disturbance Detector | 003 |
| Diving Mask | 001 |
| False Alarms | 003 |

USSOCOM

FY 98.1 TOPIC DESCRIPTIONS

SOCOM 98-001 TITLE: Non-Invasive Blood Oxygen Sensor

KEY TECHNOLOGY AREA: Biomedical

OBJECTIVE: A non-invasive sensor for real-time continuous monitoring of blood oxygen levels for military breath-hold divers to prevent injuries

DESCRIPTION: Develop a sensor package that can be incorporated into existing diving equipment (e.g., the diving mask). Or a minimally intrusive stand-alone system (e.g., inserted into the ear or attached to the wrist). The device should alert divers to increasing levels of risk by use of warning tones, warning lights, vibrating alarms, or other appropriate means.

PHASE I: Identify medical and non-medical sensors that can be used to monitor blood oxygen levels non-invasively. Consideration must be given to the military breath-hold diver's unique operating environment, equipment, and mission profiles. Design an integrated or stand-alone packaging concept for the sensor, power supplies, any required controllers, and diver alert components. Select, obtain, and configure the most promising candidates, and conduct laboratory-scale testing to prove-out components and configuration.

PHASE II: Conduct design optimization studies, and build and field-test the resulting prototype. Prepare documentation to support transition to production.

PHASE III DUAL USE APPLICATIONS: Potential military applications of the technology, in addition to the above, include, combat casualty care in austere field environments. Commercial applications include sport diving and emergency medical care. Commercial technologies that could be inserted into defense systems as a result of this project include production process control sensors.

SOCOM 98-002 TITLE: Desktop Teleconferencing

KEY TECHNOLOGY AREA: C3

OBJECTIVE: Design an integrated engineering plan that converts existing and planned Special Operations Forces (SOF) networks to support desktop videoconferencing, distance learning, and telemedicine applications.

DESCRIPTION: Desktop videoconferencing, distance learning, and telemedicine applications are rapidly expanding with new products and technology. The distributed nature of SOF headquarters elements and deployed forces places a greater emphasis on the ability to convene and conduct long distance networking using these new technologies. To date, impediments to rapidly absorbing these new technologies have been based on interoperability, standards, and physical size of deplorable components. Special Operations Forces (SOF) requires the development of an integration architecture and phasing plan that incorporates appropriate industry standards such as H.320, T.120, H.323, and H.324 as well as iso-Ethernet and Asynchronous Transfer Mode technologies into a coherent blend that supports deployed forces with desktop video teleconferencing, distance learning and telemedicine capabilities.

PHASE I: Investigate technologies, standards, applications, and devices suitable for use in desktop teleconferencing within the SOF network environment.

PHASE II: Develop a coherent architecture and phasing plan to incorporate across SOF networks. Develop a test plan and conduct appropriate testing of recommended technologies within existing SOF integration sites.

PHASE III DUAL USE APPLICATION: The resulting design will have applications in business, education, government, and health care. Specific market segmentation opportunities will arise with respect to enhancing the bandwidth of existing networks without expanding the infrastructure; creation of virtual classrooms leveraging instructors and facilities; interactive services, animation and video compression; and medical education, consultation, administrative services and long distance control and use of special medical peripheral devices.

SOCOM 98-003 TITLE: Portable Vehicle Disturbance Detector

KEY TECHNOLOGY AREA: Surface/Under Surface/Ground Vehicles

OBJECTIVE: Develop a portable vehicle protection system

DESCRIPTION: Special Operations Forces (SOF) may be called on to operate in hostile environments all over the world. A need exists for a lightweight and rapidly deployable system that can protect vehicles used by SOF personnel during garrison and field operations from tampering. This device shall protect all vehicle locations and, once configured for a particular vehicle, have no blind spots. This system shall be capable of remote activation, and shall alert the user within range (or when he returns within range) that the plane of the vehicle outline has been broken or actual contact with the vehicle has occurred. Ideally, the alert shall also categorize the threat to the vehicle. Of concern is minimizing intentional or unintentional false alarms. A variety of technologies may be required to eliminate all potential tampering methods.

PHASE I: Identify and assess systems that can address this requirement. Obtain/develop laboratory prototype (s) and test on representative vehicles. Tests should address tampering and anti-tampering-countermeasure threats, as well as ambient false alarms associated with SOF operating environments.

PHASE II: Configure field-testable prototypes and support operational evaluation. Prepare manufacturing cost analysis.

PHASE III DUAL USE APPLICATIONS: Commercial applications include law enforcement, vehicle anti-theft, and security industries, both nation-wide and internationally.

SOCOM 98-004 TITLE: Surprises and Opportunities

KEY TECHNOLOGY AREA: Multiple

OBJECTIVE: Special Operations Forces (SOF) Vision 2020 provides the template for future SOF capabilities. To enable the capabilities of this Vision, SOF must continue to be on the leading edge of many technologies. USSOCOM recognizes that surprises and opportunities may arise to support the Vision from creative minds, and will consider proposals in technologies that present an unusual opportunity.

DESCRIPTION: USSOCOM is interested in innovative applications of advanced technology to improve existing capabilities or enable new capabilities in the following areas: air, ground and maritime mobility platforms (performance enhancements and operating cost reduction); sensors; secure communications; advanced munitions and explosives; miniaturized electronics; high density power supplies, operator and systems signature reduction; and unmanned platforms. Proposers should take special care to describe the technology application in complete detail, what makes it truly innovative, and why USSOCOM would benefit

from exploring its implications. Proposers should note that proposals in this topic will receive preliminary screening that may reject them as too far afield without the benefit of a full technical review received by proposals in topics already listed.

PHASE I: Proof-of-Concept with brass-board prototypes.

PHASE II: Development of field testable prototypes and risk reduction for Phase III transition.

PHASE III DUAL USE APPLICATIONS: Will be determined for each case submitted.